### DECISION DOCUMENTATION PACKAGE COVER SHEET

#### PREPARED IN ACCORDANCE WITH

# TRACK 1 SITES: GUIDANCE FOR ASSESSING LOW PROBABILITY SITES AT INEL

SITE DESCRIPTION: Underground Storage Tank (TAN-316)

SITE ID: IET-09 OPERABLE UNIT: 1-02

WASTE AREA GROUP: 01

#### I. SUMMARY - Physical description of the site:

Initial Engine Test (IET)-09 [Test Area North (TAN)-316] was the site of a 550-gal steel underground storage tank (UST). The tank was used to store jet engine lube oil from the Fuel Transfer Pumping (TAN-625) building at the IET facility. Records indicate that the tank was installed in 1958 and last used in 1960.

Tank content samples were taken in June 1989 to perform a waste profile analysis for volatile and semi-volatile organics, and Extraction Procedure (EP) Toxicity metals. The tank contents contained 1,200-1,400 mg/l of barium and organics such as acetone, m-xylene, p-xylene, and naphthalene in a water (29%) and lube oil mixture. These compounds are typically found in lube oils. Approximately 50-75 gal of the water and lube oil mixture were removed on September 25, 1991, and disposed of as hazardous waste at the United States Pollution Control, Inc. (USPCI) Grassy Mountain site in Utah.

Excavation and removal activities for tank TAN-316 were performed on October 7, 1991. For safety and sampling purposes, volatile organic compounds (VOCs) were monitored using a photoionization detector (PID). No VOCs were recorded above the instrument detection limit of 0.0 part per million volume (ppmv). Six biased soil samples were collected at the bottom of an 8-ft excavation after the tank was removed. These samples were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH), and Toxicity Characterization Leaching Procedure (TCLP) metals. The samples were collected on the north, south, east, and west edges of the excavation and on the eastern edge of the tank. No BTEX, TPH, or barium were detected in the soils by the laboratory analysis. No stained or discolored soil was observed at the time of excavation. No holes were found in the tank.

After excavation, the area was backfilled with soil that was removed during excavation, and with additional soil from the Central Facilities Area (CFA) gravel pit. The tank and its piping (vent lines, fill pipes, inlet/outlet piping to building TAN-625) were then moved to the tank storage facility at IET. The tank has been cut into strips to be scrapped.

#### DECISION RECOMMENDATION

#### II. SUMMARY - QUALITATIVE ASSESSMENT OF RISK:

The reliability of information provided in this report is high. Six soil samples (including one duplicate) taken from this site contained no detectable metal or organic compounds. No stained or discolored soils were observed during tank excavation. Tank removal program logbooks confirm the tank has been removed and the contents safely disposed. Therefore, the overall qualitative risk is low. Comparing these conclusions regarding reliability and risk, this site should be reclassified as a "no action" site.

#### III. SUMMARY - Consequences of Error:

#### False Negative Error

The possibility of contamination above action levels remaining at this site is remote. Laboratory analytical data and visual observations of excavated soils showed no evidence of contamination. The tank has been removed and any undisturbed soils are 8 ft below the surface. There is no driving force to the groundwater at this site (i.e, desert environment with an average of only 9 in./yr of rain) and no available pathways to a receptor.

As an example, even if as little as 25 gals of lube oil had spilled or leaked from the tank, it would have spread into approximately 1.6 yd<sup>3</sup> of soil (see question 6) and would have been readily observable when the tank was removed. Since no stained soil was found, the tank did not leak and no contamination remains at the site.

#### False Positive Error

If further action is completed at this site, the funds expended would exceed the environmental benefit to the site. At least one borehole to a depth of 10 ft plus soil sampling for organics and metals would be needed to verify the presence or absence of contamination. Based on existing data, there is no need for further action at this site.

#### IV. SUMMARY - OTHER DECISION DRIVERS:

No other decision drivers are apparent for site IET-09 (TAN-316).

#### RECOMMENDED ACTION:

Site IET-09 (TAN-316) should be reclassified as a "no action" site. Laboratory analytical results confirm no BTEX, TPH, or barium are present in the soil indicating that the tank did not leak. The tank, its contents, and the associated piping are now removed. Visual observations during tank excavation support the laboratory results, so no source remains at the site. The evidence supports a high reliability, low risk or no action assessment of this site.

SIGNATURES	# OF PAGES	61	DATE:	12/21/92
Prepared by:		DOE WAG Mana	ger: 973 1/1/2	2/201
Approved by: I. R. Linner	0	Independent	Review: Than	m.C. flyn

#### NO FURTHER ACTION DETERMINATION

The U.S. Department of Energy, the U.S. Environmental Protection Agency (EPA) -Region 10, and the State of Idaho have completed a review of the referenced information for <u>IET-09</u> hazardous waste site, as it pertains to the INEL Federal Facility Agreement of December 9, 1991. Based on this review, the Parties have determined that no further action for purposes of investigation or study is justified. This decision is subject to review at the time of issuance of the Record of Decision.

Brief summary of the basis for no further action:

Tack removal file, initial assessment & Track 1
package basis for decision summarized in Decision
statement

References: Include Plan new map which supports the location for

DOE Project Manager

EPA Project Manager

Idaho Project Manager

### DECISION STATEMENT (BY DOE RPM)

(BY DU	C RPM/
DATE RECD:	
DISPOSITION:	
tank sermond, no soil et leakage, no holes in le leahage,	tende poèl camples indicate no
DATE: 1/6/93	# PAGES (DECISION STATEMENT)

SIGNATURE:

NAME: J. LYCE

### DECISION STATEMENT (BY EPA RPM)

DATE	RECD:	1/6/43	iET	0
		11011	161	

DISPOSITION:

1 Use oil. Installed '58 last used in '60. 275 gal of lube oil/H2O removed in '91, PID showed ND during removal. No holes in tack no stand soil UST 1705 67% hydrocomber \$ 29% H2C. Hg in lube oil @ 0.013 ppm in oil phose. High levels of Ba also detected. No contamination found in soil. No indication of leaks. No leather action is recommended

DATE:	1/6/93		# PAGES (DE	CISION STATEMENT)
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## DECISION STATEMENT (BY STATE RPM)

DATE RECD: 1/6/93	
Disposition:  Data naticates that the encount that was alone and that we can't that we want pose on unacceptable No habban achieved is required.	commodiant exists at the external to site to homen from the
DATE: 1/0/93 NAME: De on J. Nygard	# PAGES (DECISION STATEMENT)  SIGNATURE: / Law 1. 1   Law 1

# PROCESS/WASTE WORKSHEET SITE ID: IET-09 (TAN-316) Underground Storage Tank

Col 1 Process Associated with this site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifact/Structure/Disposal Areas Associated with this Waste or Process
Process Lube oil was stored in an underground storage tank (IET-09). Tank typically filled from drums via a fill-port. Lube oil was piped to TAN-625 building to the coupling station where the nuclear engines were tested.	No waste disposal occurred at this site. When the tank was abandoned, however, 50- 75 gals of lube oil remained. This product was pumped out and disposed of as hazardous waste by USPCI.	Structure: Underground Storage Tank  Location: Now removed, previously located approximately 1 ft south of TAN-625. Tank has been cut up for recycling and is currently stored at IET.  Description: 550-gal steel storage tank.
<b>,</b>		Structure: Associated piping  Location: Now removed. Previously located approximately 1 ft south of building TAN-625.  Description: Approximately 5 ft of 3/4 in. steel pipe previously routed into building TAN-625.

#### CONTAMINANT WORKSHEET

SITE ID: IET-09

PROCESS: (Col 1) Lube Oil Underground Storage Tank (TAN-316)

Col 4 What known/potential hazardous substances/ constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material?	Col 6 Known/estimated concentrations of hazardous substances/ constituents	Col 7 Risk based concentration mg/kg	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med/Lo)
BTEX <sup>a</sup> /TPH <sup>b</sup> Results					
ТРН	soil	ND,DL=11 mg/kg	d	Lo	Hi
p-Xy lene	soil	ND,DL=1 μg/kg	е	Lo	Hi
m-Xylene, Chlorobenzene	soil	ND,DL=1 μg/kg	е	Lo	Hi
o-Xy lene	soil	ND,DL=1 μg/kg	e	Lo	Hi
Metals Analysis Results <sup>C</sup>					
Barium	soil	ND,DL=10 mg/L	f	Lo	Hi.

a. FPA method SV-846-8020.

b. California Department of Health Services Method.

c. EPA method 6010.

 d. Risk-based concentration not calculated for TPH because no toxicity information is available.

e. No risk calculated for non-detected compounds where the detection limit is below risk-based concentrations provided in <u>Supplemental Guidance for Superfund Risk Assessments in Region 10</u>, August 23, 1991. Data are contained in Table II-2 for soils.

f. No risk calculated for non-detected compounds where the detection limit is below regulatory limit (TCLP).

NOTE: Xylene and barium were detected in the tank contents and are used as indicator compounds as to whether or not the tank leaked. Results shown are a summary of the results from six soil samples.

	QUALITATIVE RISK RELIABI	LITY EVALUATION	N TABLE
		QUALITATIVE RIS	SK
	L0₩	MUIGEM	нісн
HIGHLY UN- RELIABLE	screening data	TRACK II	screening data
HIGHLY RELIABLE	NO ACTION REQUIRED	RI/FS	INTERIM ACTION <sup>a</sup>
reliability	LOW concentration resulting in risk < 10 <sup>-6</sup>	MEDIUM	HIGH concentration resulting in risk > 10 <sup>-3</sup>
		quantitative ri	sk

a. If there exists sufficient data to recommend a remedy.

Question 1. What are the waste generation process locations and dates of operation associated with this site?
Block 1 Answer:
IET-09 (TAN-316) was the site of a 550-gal steel UST used from 1958 to 1960 as a storage tank for jet engine lube oils. The tank was located about 1 ft south of the Fuel Transfer Pumping building (TAN-625) at the IET facility.
Engineering drawings show that the lube oil was pumped through TAN-625 to the coupling station where the nuclear aircraft engines were tested. Piping connected to the tank included two supply and one return line leading to TAN-625, a vent pipe, and a fill-line leading to a fill-port north of TAN-625.
It is believed that the tank was filled by drum or possibly a tanker truck through the fill-port. There are no records or evidence to believe the tank was ever used for waste disposal or that spills occurred around the tank.
Block 2 How reliable is/are the information source/s? <u>x_HighMedLow</u> (check one) <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b>
Engineering drawings list tank purpose as lube oil storage and provide details on tank piping and location. Tank removal logbooks also verify location and state that no contamination was detected in the soils.
Block 3 Has this information been confirmed? <u>x</u> YesNo (check one)  IF SO, DESCRIBE THE CONFIRMATION.
Engineering drawings and logbook excavation data confirm tank location and purpose. Tank content sampling confirms that the tank contained lube oil (question 3) and that no contamination was detected in the soils.
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]
No available information [ ] Analytical data [x] 2.3  Anecdotal [ ] Documentation about data [ ] Historical process data [ ] Disposal data [ ] Current process data [ ] Q.A. data [ ] Aerial photographs [ ] Safety analysis report [ ] Engineering/site drawings [x] 4 D&D report [ ] Unusual Occurrence Report [ ] Initial assessment [ ] Summary documents [x] 5 Well data [ ] Facility SOPs [ ] Construction data [ ] OTHER

Question 2. What are the disposal process locations and dates of operation associated with this site? How was the waste disposed?
The tank was only used for product storage, so there have been no wastes disposed at this site. Tank TAN-316 was used from 1958 to 1960 to supply lube oil for the Aircraft Nuclear Program. When the tank was abandoned, however, 50 to 75 gals of lube oil product remained.
81ock 2 How reliable is/are the information source/s? <u>x_HighMedLow (check one)</u> <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b> Engineering drawings list the purpose of the tank as lube oil storage.
Block 3 Has this information been confirmed? <u>x Yes No</u> (check one)  If so, describe the confirmation.  Tank Management Program files and analytical data confirm content removal and disposal. Engineering drawings confirm tank purpose.
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]  No available information [

Question 3 Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

#### Block 1 Answer:

There is no evidence of any source remaining at this site. As discussed below, actions taken at the site have removed all potential sources.

When the tank was abandoned in 1960, approximately 50-75 gal of lube oil were left in the tank. The first samples of tank contents were taken in June 1989 for volatile and semi-volatile organic compounds, and EP Toxicity metal analyses. The sample analysis indicated that the tank contents consisted of a water (29%) top phase and a lube oil bottom phase. The tank contents were contaminated with barium concentrations ranging from 1,200 to 1,400 mg/L.

Other contaminants in the tank contents included lead (60-80 mg/L), mercury (70-120  $\mu$ g/L), m- & p-xylene (29,505  $\mu$ g/kg), 2-methylnaphthalene (10,537  $\mu$ g/kg), acetone (86,847J  $\mu$ g/kg), o-xylene (5,676J  $\mu$ g/kg), and naphthalene (5,633J  $\mu$ g/kg). These data are typical of what would be found in lube oils. Contaminants found in the tank and the lab blank were 2-butanone, methylene chloride, and tetrachloroethene. These blank contaminants are, therefore not considered to be representative of the tank contents. Laboratory data are in Attachment 2.

The contents of tank IET-09 were pumped out by USPCI on September 25, 1991. Because of the barium concentrations, it was disposed of as a hazardous waste at the USPCI Grassy Mountain site.

Excavation and removal activities for IET-09 were performed on October 7, 1991. Beta/gamma analyses, performed on the tank using a Ludlum Model 2A and HP 260 probe, showed radioactivity to be within background levels. No visually contaminated soils were observed during tank excavation. VOCs in the tank excavation and excavated soil were monitored using a PID. There were no recorded VOCs above the instruments detection limit of 0.0 ppmv. None of the contaminants found in the tank were detected in the soil, indicating the tank did not leak.

Six biased soil samples (including one duplicate) were collected at the bottom of an 8-ft excavation after the tank was removed (see Attachment 3). Samples were collected on the south, east, north, and west edges of the excavation, and the eastern edge of the tank. Soil samples for field screening and verification sampling were collected directly from the heavy equipment bucket. These samples were analyzed for BTEX, TPH, and metals to indicate residual soil contamination levels. Laboratory analytical results confirm that the soil concentrations for these contaminants were below detection limits. Consequently, no soils from IET-09 were disposed at the CFA landfill. The soil remaining from the excavation was used to backfill the site. A copy of the tank removal logbook is in Attachment 3.

Block 2 How reliable is/are the information source/s? x_HighMedLow (check one) EXPLAIN THE REASONING BEHIND THIS EVALUATION.
The tank has been pumped out and removed. No residual soil contamination was detected by laboratory analysis or visual observations of the excavated soil. There are no known records of leaks or spills from this tank. No holes were observed in the tank body when it was removed.
Block 3 Has this information been confirmed? $\underline{x}$ Yes $\underline{\hspace{0.5cm}}$ No (check one) IF SO, DESCRIBE THE CONFIRMATION.
Laboratory results supported by visual observations confirm the absence of a source.
No available information

Question 4 Is there empirical, circumstantial, or other evidence of migration? If so, what is it?
Block 1 Answer:
No migration has occurred at this site.
Block 2 How reliable is/are the information source/s? <u>x_High_Med_Low</u> (check one) <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b>
Field measurements of VOCs and analytical data from the soil samples taken during the excavation indicate that no leakage or migration took place from the
tank. Analytical results of BTEX, TPH and metals show no readings above detection limits in the soil samples. No stained or discolored soil was observed during the excavation. No holes were found in the tank.
observed during the excavation. No hores were round in the tank.
Block 3 Has this information been confirmed? $\underline{x}$ Yes No (check one) IF SO, DESCRIBE THE CONFIRMATION.
The field sampling and laboratory data from site soils did not detect any
contamination. Visual observations of the soils under the tank and lack of holes in the tank body support the conclusion that no leaks occurred at this
site. Therefore, no migration is expected.
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]
No available information [ ] Analytical data [x] 1 Anecdotal [ ] Documentation about data [ ]
Current process data  [ ] Disposal data  [ ] Q.A. data  [ ]
Aerial photographs
Summary documents         [x]         5         Well data         []           Facility SOPs         []         Construction data         []
OTHER []

Question 5 Does the site operating or disposal historical information estimation of the pattern of potential contamination? If pattern is expected to be a scattering of hot spots, what expected minimum size of a significant hot spot?	the	
Block 1 Answer:		
There is no expected pattern for potential contamination since there was no evidence of leakage or overflow when the tank was removed.		
Block 2 How reliable is/are the information source/s? $\underline{x}$ High $\underline{\hspace{0.2cm}}$ Med $\underline{\hspace{0.2cm}}$ Low <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b>	(check one)	
Had there been a release, a hot spot around the release point would be expected (i.e, near the fill pipe where fuel product may have overflowed, near a vent or building supply lines, or along the keel of the tank). No contamination was found in any of these areas. No holes were found in the tank.		
Block 3 Has this information been confirmed? <u>x Yes No</u> (check one)  IF SO, DESCRIBE THE CONFIRMATION.		
The field sampling and laboratory data from site soils and visual observations around areas of likely spills or leaks confirm that a contamination pattern or hot spots are not present.		
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from re	eference list]	
No available information [ ] Analytical data [x] 1 Anecdotal [ ] Documentation about data [ ] Historical process data [ ] Disposal data [ ] Current process data [ ] Q.A. data [ ] Aerial photographs [ ] Safety analysis report [ ] Engineering/site drawings [ ] D&D report [ ] Unusual Occurrence Report [ ] Initial assessment [ ] Summary documents [ x ] 5 Well data [ ] Facility SOPS [ ] Construction data [ ] OTHER		

Question 6 Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.		
Block 1 Answer:		
No contamination was found at this site.		
As an example, however, even if as little as 25 gals of lube oil had spilled or leaked from the tank, it would have spread into approximately 1.6 yd³ of soil (see Attachment 1) and would have been readily observable when the tank was removed. Since no stained soil was found, the tank did not leak and no contamination remains at the site.		
Block 2 How reliable is/are the information source/s? <u>x</u> High Med Low (check one) <b>Explain THE REASONING BEHIND THIS EVALUATION.</b>		
Laboratory data were below detection limits for the target compounds. Visual observations of soil removed from the site indicate that no source remains at the site. No holes were found in the tank.		
Block 3 Has this information been confirmed? $\underline{x}$ Yes $\underline{\hspace{0.5cm}}$ No (check one) If SO, DESCRIBE THE CONFIRMATION.		
The laboratory and field screening data were confirmed by visual observations of the excavated soil.		
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]		
No available information [] Analytical data [x] 1 Anecdotal [] Documentation about data [] Historical process data [] Disposal data [] Current process data [] Q.A. data [] Aerial photographs [] Safety analysis report [] Engineering/site drawings [] D&D report [] Unusual Occurrence Report [] Initial assessment [] Summary documents [] Well data [] Facility SOPs [] Construction data [] OTHER		

Question 7 What is the known or estimated quantity of hazardous substance/ constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.	
Block 1 Answer:	
The presence of VOCs, BTEX, TPH, and metals were not detected in soil samples; therefore, no hazardous substances are present at this site.	
Block 2 How reliable is/are the information source/s? <u>x</u> High <u>Med</u> Low (check one) <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b>	
The field sampling data from the site soil did not show any contamination. Therefore, all evidence indicates this site does not contain hazardous substances above action levels.	
Block 3 Has this information been confirmed? <u>x</u> Yes No (check one)  IF SO, DESCRIBE THE CONFIRMATION.	
Field surveys and laboratory data from soil samples, and visual observations of the tank excavation confirm that there are no hazardous substances at this site.	
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]	
No available information [ ] Analytical data [x] _ 1 Anecdotal [ ] Documentation about data [ ] Historical process data [ ] Disposal data [ ] Current process data [ ] Q.A. data [ ] Aerial photographs [ ] Safety analysis report [ ] Engineering/site drawings [ ] D&D report [ ] Unusual Occurrence Report [ ] Initial assessment [ ] Summary documents [ ] Well data [ ] Facility SOPs [ ] Construction data [ ] OTHER	

Question 8 Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.	
Block 1 Answer:	
No evidence exists that hazardous substances/constituents are present at this site at levels that require action.	
Block 2 How reliable is/are the information source/s? <u>x</u> High <u>Med</u> Low (check one) <b>EXPLAIN THE REASONING BEHIND THIS EVALUATION.</b>	
Tank IET-09 (TAN-316), its associated piping, and its contents are now removed from this site. Laboratory data show soil contaminant levels are below their respective detection limits. The site has been backfilled with clean soil.	
Block 3 Has this information been confirmed? <u>x</u> Yes No (check one)  If SO, DESCRIBE THE CONFIRMATION.	
Field surveys, laboratory analytical data, and visual observations of the excavated site confirm that hazardous substances/constituents are not present at the site.	
Block 4 SOURCES OF INFORMATION: [check appropriate box(es) & source number from reference list]	
No available information [ ] Analytical data [x] _1 Anecdotal [ ]	
Historical process data [ ] Disposal data [ ] Current process data [ ]	
Aerial photographs [ ] Safety analysis report [ ] Engineering/site drawings [ ] D&D report [ ]	
Unusual Occurrence Report [] Initial assessment [] Summary documents [x] 5 Well data []	
Facility SOPs [] Construction data [] OTHER []	

#### REFERENCES

- 1. Biospherics Inc., Analytical data, November 1991.
- 2. Data Chem Laboratories, Analytical data, December 1989.
- 3. EG&G Idaho, Inc., Analytical data. ROA#'s 218 and 890087-C, October 1989.
- 4. EG&G Idaho, Inc., Drawings indicating the location and piping of Tank TAN-316 (#106,973; 106,926; 106,932).
- 5. EG&G Idaho, Inc., Tank Removal Summary for TAN-316 (IET-09), November 1990.